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ABSTRACT

The Consortium was established in the summer of 1967 to provide the machinery necessary to encourage Oklahoma institutions of higher education to band together voluntarily for the purpose of developing their intrainstitutional and interinstitutional research capabilities, and to enable them to improve the quality of instruction in the state. This report discusses: (1) the method by which the objectives, evaluation instruments, and other procedures were developed; (2) the activities undertaken to carry out the five major objectives which were: pilot research grants to encourage personnel from member institutions to develop proposals and undertake research projects; development seminars to encourage cooperative planning; workshops, organizational seminars, and task forces to help with and encourage research efforts; research laboratory experiences to help people gain experience in a university research laboratory; and an information and consultation service; (3) the analysis of the project data; and (4) the conclusions, implications, and recommendation. (AF)

ED040693

FINAL Report

OKLAHOMA CONSORTIUM ON RESEARCH DEVELOPMENT

Project No. 7-6-041

Grant No. OEG-1-7-070010-4592

Larry K. Hayes, Project Supervisor
June 1970

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OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
Oklahoma City, Oklahoma

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Several individuals played important roles in the success of the Oklahoma Consortium on Research Development.

Through the efforts of Dr. E. T. Dunlap, Chancellor, and Dr. John J. Coffelt, formerly Vice Chancellor of the Oklahoma State Regents for Higher Education, the State Regents became the contracting and coordinating agency for the Consortium and provided continuous state level coordination and leadership.

Policies, objectives, and procedures for the Consortium were developed by the representatives of the Coordinating Council and the Steering Committee, with assistance from Dr. Kenneth St. Clair, Oklahoma State University, and Dr. Herbert Hengst, University of Oklahoma.

Dr. Paul Dressel, Assistant Provost and Director of Institutional Research, Michigan State University, was the Consortium evaluation consultant for three years. He helped determine the project objectives and gently nudged the staff back to the path leading toward those objectives when they tended to stray.

The faculty and administration of the developing institutions of Oklahoma were always open to suggestions, ready to try out their own ideas and displayed capabilities for research far beyond expectations.

It was a rare privilege to work with the Oklahoma Consortium on Research Development during the past three years. Hopefully, the effects of the Consortium will be felt in Oklahoma for years to come.

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INTRODUCTION

The Consortium was established in the summer of 1967 to provide the machinery necessary to encourage Oklahoma institutions of higher education to band together voluntarily for the purpose of developing their intrainstitutional and interinstitutional research* capabilities, and to enable them to improve the quality of instruction in Oklahoma. This role of the Consortium is appropriate and within the scope of the objectives of higher education in Oklahoma as developed by the Oklahoma State Regents for Higher Education.

The Oklahoma State Regents for Higher Education has the responsibility, under the Oklahoma Constitution, for coordination and leadership at the state level with emphasis in the areas of functions and programs of study. The State Regents as the contracting and coordinating agency for the Oklahoma Consortium on Research Development was awarded a grant of approximately \$214,000 by the U. S. Commissioner of Education over a three-year period to accomplish the above purposes.

The State Regents assigned a person part-time to the Consortium as the project supervisor. The University of Oklahoma and Oklahoma State University each assigned a person part-time to the Consortium as co-directors during the first two years, and then as coordinating consultants for the third year of operation.

Membership has been open to all institutions of higher education in Oklahoma, with a representative from each institution serving as a delegate to the Coordinating Council. The Council, operating within the broad policy of the Oklahoma State Regents for Higher Education, is the policy-formulating body for the Consortium. A seven-member Steering Committee is elected annually and in turn elects from its membership a chairman to preside over meetings of the Coordinating Council and the Steering Committee.

The Consortium staff, with consultation from Dr. Paul L. Dressel of Michigan State University, designed and conducted the evaluation of the Oklahoma Consortium on Research Development in terms of the stated objectives of the Consortium.

* While the primary emphasis of the Consortium is in applied research, research is broadly defined to include institutional research and program development; evaluation; dissemination and utilization activities.

METHOD

The Oklahoma Consortium on Research Development objectives were developed through the joint efforts of the Coordinating Council, the Steering Committee and the staff, with consultation from Dr. Dressel and approved by the Coordinating Council during the first year of operation. Evaluation instruments were developed as follows: a Research Activity Status Survey designed to determine on a pre and post basis the degree to which the research organization and activity at member institutions had changed from 1966-67 (prior to the advent of the Oklahoma Consortium on Research Development) and 1969-70 (the end of federal support for the Oklahoma Consortium on Research Development); an opinionnaire* designed to determine on a pre and post basis the degree to which student, faculty and administrative perceptions as to the effect of faculty research activity on instruction had changed from 1967-68 to 1969-70 and to make certain comparisons between groups; and an opinionnaire, statements taken from Oklahoma Consortium on Research Development objectives modified only to fit a questionnaire format, designed to determine on a pre and post basis the degree to which college presidents and Coordinating Council members perceptions as to "what is" and "what should be" the situation at their institution, relative to research activity, had changed from 1967-68 to 1969-70 and to make certain other comparisons. Approval was obtained from the U. S. Office of Education for the use of each of these instruments.

Procedures were developed to make it mandatory for the director of each Consortium activity--conference, seminar, pilot research project, etc.--to submit a final report for evaluation purposes. Directors were also asked to designate what they considered as the spin-off benefits of each Consortium activity for which they were responsible. Information concerning the number of students and type of student involvement was obtained from these reports. Interview sessions were scheduled on several campuses to obtain the opinions of students concerning their involvement.

A series of visits were scheduled to enable Dr. Dressel, the project evaluator, to examine Oklahoma Consortium on Research Development files; to observe various kinds of activities in operation;

* Statements taken from an earlier study by Dr. Paul L. Dressel, used with his permission.

and to visit informally with numerous individuals and groups associated with the Consortium. Dr. Dressel agreed to provide a brief subjective evaluation paper at the end of the federal funding period, based upon his visits and his review of project records and reports.

Evaluation plans were presented to the Coordinating Council in the fall of 1968. The plan was explained in detail, written procedures distributed, and questions answered. The Coordinating Council members agreed to work with their research coordinators in administering the instruments on a pre and post basis. The Research Activity Status Survey instrument was filled out by the research coordinator from institution records. The Research Activity of Institutions: What Is - What Should Be instrument was answered by the college president and the Coordinating Council member. The Effect of Faculty Research Activity on Instruction instrument was administered to a stratified random sample of 10,000 students, 500 faculty, and 100 administrators.

Instruments were administered on the same day at each institution, the pre test in the fall of 1968 and the post test in the spring of 1970. The data collected was analyzed as follows:

The Research Activity Status Survey--frequency and percentages for each question by institution for both the pre and post data and a comparison between pre and post data.

The Research Activity of Institutions: What Is - What Should Be--frequency, percentages, mean and standard deviation for each question by classification and type of institution, and comparisons utilizing the U test, Wilcoxon, and Chi Square statistics.

The Effect of Faculty Research Activity on Instruction--frequency, percentages, mean and standard deviation for each question and comparisons utilizing the U test, Wilcoxon, and Chi Square statistics.

RESULTS

The project report and evaluation will be focused on each of five general Oklahoma Consortium on Research Development objectives. An objective will be stated, followed by the Oklahoma Consortium on Research Development activities directed toward that objective, and

then related activities generated by the Oklahoma Consortium on Research Development leading to autonomous activity. Evaluation results will be presented as a supplement to this report.

Objective A.—To develop a nucleus of faculty at member institutions with a sufficient understanding of the basic nature of research so that: the need for research leading toward the improvement of instruction is accepted and resources are made available for its support; a variety of research designs and methodology are known and utilized by this nucleus; consultation to other faculty members in the planning of research can be provided; proposals of sufficient significance and sophistication will be developed and drafted in a form to obtain financial support from appropriate sources; awareness of research and concern for systematic inquiry become evident in courses and in the learning experiences of students.

Activities.—The project supervisor attended a National Research Training Institute directed toward program development and evaluation, obtained materials and identified qualified consultants.

Visits were made to each campus to talk with administrators and faculty concerning the Consortium.

Two representatives from each Consortium institution attended an Oklahoma Consortium on Research Development Research Workshop and used materials obtained and consultants identified at the National Research Training Institute. Participants developed research proposals and became familiar with various sources of research information, including ERIC. Presidents and academic deans of institutions also attended the first day of the workshop for an orientation session.

Two representatives from each Consortium institution attended an Oklahoma Consortium on Research Development Project Research Office Workshop and developed guidelines for the type of research office that made sense for their institution.

Five faculty members from Consortium institutions were chosen to attend the National Research Training Institute to prepare to work with Consortium institutions.

Each Consortium institution was given Oklahoma Consortium on Research Development support for a Phase II Faculty Research Workshop on their campus with consultation from the five people who attended the National Research Training Institute.

An organizational seminar was conducted to assist in the planning and coordination of the Phase II Faculty Research Workshop and an organizational seminar was conducted to assist institutions in refining their

Faculty Research Office Policies and Procedures.

One hundred and thirty-four research applications were approved and grants awarded to faculty members to enable them to get involved in research.

Research Laboratory Experience grants were awarded to thirteen faculty members from Consortium institutions to allow them to work with university professors in a well-equipped laboratory situation.

Research information and review services were provided by the project director: identified funding agencies; held conferences involving agency personnel to explain new programs; reviewed proposals for individual faculty members; obtained ERIC microfiche reader and file for State Regents' office; helped the University of Oklahoma obtain ERIC data base on tape and set up several demonstrations to show how researchers could utilize the computer to query the ERIC data base; and provided institutions with funds to obtain specific research consulting assistance and ERIC materials.

A Consortium newsletter was published and distributed on a regular basis to 1,500 faculty members, which included among other things: research findings, methodology, problems, new sources of support, information concerning Consortium grants made to faculty members and dates of Consortium research activity.

The Consortium staff spoke to the following state groups concerning the Consortium: the Oklahoma Academy of Science; the Mid-State Chapter of Phi Delta Kappa; the College Deans, Oklahoma Education Association; the State School Boards Association; and delivered a paper at the 1970 AIR Forum in New Orleans.

Articles concerning the Oklahoma Consortium on Research Development appeared in the Oklahoma City Times (newspaper); the Oklahoma Teacher; the Oklahoma School Board Bulletin; and American Education, U. S. Department of Health, Education and Welfare, Office of Education.

Generated Activities.—Several institutions have organized research committees, developed policies and procedures, and established project research offices. Table I provides information concerning these offices and related activity.

TABLE I

COMPARISON OF PROJECT RESEARCH OFFICE INFORMATION
AND RELATED ACTIVITIES - 1966-67, 1969-70

Activity	1966-67	1969-70
Project Research Office Established	3	17
Research Committee Established	8	15
Written Statement of Policies and Procedures Developed	-	12
Project Research Office Director (on the job)	3	13
Number of Secretaries Employed (FTE)	4	14
Number of Faculty Involved in Research	158	280
Dollars Budgeted for Faculty Research Projects	-	\$141,000
Space Set Aside for Project Research Office	2	8
Research Equipment and Materials Available:		
Microfiche Reader	8	18
ERIC Materials	6	21
HEW Grants-in-Aid Supplement	11	20
OEO Catalog of Federal Assistance Programs....	13	22
NSF Guide to Programs	15	20
Russell Sage Foundation Directory	8	13
Program Development Activities:		
Number of Faculty Involved - Interdisciplinary ..	26	60
Number of Faculty Involved - Interinstitutional .	19	49
Number of Faculty Involved - Other Programs	167	236
Professional Involvement:		
Number of Faculty Attending Professional Meetings	51	284
Number of Faculty Actively Participated in Professional Meetings	-	122
Program Development and Training Proposals:		
Submitted and Funded	-	72
Submitted and Pending	-	26
Submitted and Not Funded	-	11

Oklahoma State Department of Education representatives attended the Project Research Workshop and asked for assistance in conducting similar workshops for common school educational researchers. Workshops were conducted by each of the six four-year colleges, utilizing as consultants the Oklahoma Consortium on Research Development faculty members who attended the National Research Training Institute. The primary emphasis of the workshops was to cause the participants to develop a proposal, to build in sound evaluation procedures, and to become familiar with ERIC materials.

Follow-up activities with the State Department included two evaluation and dissemination workshops for State Department of Education personnel and assistance in the development of plans for a state-wide educational information center, patterned after suggestions made by the Office of Information Dissemination of the U. S. Office of Education.

The Pilot Research Grants, awarded to faculty to enable them to get involved in research, stimulated member institutions to support faculty research. Table II indicates the increasing degree of support by institutions.

TABLE II

COMPARISON OF LOCAL SUPPORT FOR FACULTY RESEARCH
1967-68 - 1969-70

Type of Funding	1967-68		1969-70	
	Dollars	Percent	Dollars	Percent
OCRD Pilot Grants:				
OCRD Funds.....	\$14,450	70.6	\$11,801	35.2
Local Funds	6,024	29.4	21,679 *	64.8
Other Projects:				
Outside Funds	\$281,998	80.0	\$502,529	65.9
Local Funds	14,842 **	20.0	259,624	34.1

* Hard money required in 1969-70 rather than in-kind contribution as required for 1967-68.

** Estimated.

The percentage of pilot research grants dealing with instruction and curriculum increased each year, as indicated in Table III.

TABLE III

COMPARISON OF THE CONTENT OF PILOT RESEARCH GRANTS
1967-68; 1968-69; 1969-70

Content	Percentages		
	1967-68	1968-69	1969-70
Curriculum and Instruction	37	53	55
Other	63	47	45

Several institutions modified existing courses to include scientific inquiry as a major method for instruction, as a result of student interest and involvement in pilot research projects.

The Department of Home Economics at Oklahoma Panhandle State College of Agriculture and Applied Science is in the process of re-vamping their curriculum because of results obtained from a pilot research study.

Oklahoma City University is restructuring their student activity program because of results obtained from two pilot research studies.

Following the Oklahoma Consortium on Research Development Research Workshops, faculty members from Oklahoma submitted more proposals to the Regional Research Office; had more proposals funded; and had a higher percent of their proposals funded than any other state in Region VII.

The small pilot research grants of the Oklahoma Consortium on Research Development also resulted directly in a number of research proposals which were funded by other federal agencies. Southwestern State College utilized the findings of a typical \$200 Consortium grant to develop a science research proposal which was submitted to the National Science Foundation and funded for \$16,000. Central State College received a \$35,000 grant from NIH for a study which was an extension of a small pilot grant. Oklahoma Military Academy developed a proposal utilizing the findings of a pilot grant and received \$20,000 from the National Science Foundation for a math training program. East Central State College received a \$32,000 grant for a Science Institute from the National Science Foundation. This program was also the out-growth of a Consortium pilot grant of \$200. A professor at Southeastern State College received a \$200 Consortium grant to become involved in a research study in music which resulted in a \$7,500 U. S. Office of Education grant. (Summary information concerning all pilot research studies will be published in a separate report.)

Central State College provides the best example of achievement at a four-year college during the period of the Oklahoma Consortium on Research Development. In 1966-67, Central State College listed the research expenditures as \$21,300; had no faculty research budget; had no research operation; reported conducting two program development projects; reported only nine instances of faculty involvement in professional activities of any kind; and submitted no research, program development and/or training proposals to outside funding agencies.

In 1969-70, Central State College spent \$105,648 of local funds and \$148,656 of outside funds for research and budgeted \$39,801 for faculty research projects; had established an institutional research office, a project research office, college-wide research committees, developed written research policies and procedures; employed a full-time project research director, a half-time institutional research director, eight secretaries; set aside space for research offices and research projects; conducted 66 program development projects; listed 350 instances of faculty involvement in professional activities (23 presented papers); and submitted 29 proposals, amounting to \$813,766 to outside funding agencies of which 22 were funded for \$255,008.

Probably the best example of achievement at a two-year college during this period is provided by Oklahoma Military Academy.

In 1966-67, Oklahoma Military Academy listed their research expenditures as zero; had no faculty research budget; had no research operation; reported no program development activity; reported no faculty involvement in professional activity of any kind; and submitted no research, program development and/or training proposals to outside funding agencies.

In 1969-70, Oklahoma Military Academy spent \$4,364 of local funds and \$14,811 of outside funds for research and budgeted \$22,211 for faculty research projects; had established an institutional research office, a project research office, organized a college-wide research committee; employed a part-time institutional research director, a part-time project research director, a half-time secretary; set aside space for institutional and project research offices; conducted seven program development projects; listed 85 instances of faculty involvement in professional activities; and submitted four proposals amounting to approximately \$280,000 to outside funding agencies of which two were funded for \$233,008. (Summary information concerning each member institution will be published in a separate report.)

An undetermined number of research studies resulted when faculty applications filed for matching Consortium support were turned back

to the institutions because of lack of funds and the institutions decided to support them totally or the faculty member decided to carry on the research without support.

Numerous individuals called or came by the office to obtain information concerning research opportunities or to get a reaction to their proposal. Many of these people learned of this service through the Consortium newsletter.

A faculty member from the University of Oklahoma Medical Center read in the newsletter about an Oklahoma Consortium on Research Development conference which dealt with the provisions of the Educational Professions Development Act and about the Consortium information service. After several visits to secure application forms, suggestions relative to supporting agencies, and assistance in developing his proposal, he received a \$20,000 training grant from the U. S. Office of Education and supplementary assistance from several state agencies.

Twenty-one Consortium institutions now have acquired some part of the ERIC microfiche files. The University of Oklahoma has developed a program that enables them to search the entire ERIC data base in less than six minutes to obtain information requested by anyone in Region VII. They are also developing a proposal to obtain federal funds that will enable them to obtain feedback from users in an attempt to further evaluate and improve the system.

Several other states (Colorado, Kansas, Arkansas, etc.) have become interested in the benefits of a Consortium and have requested and received information concerning the Oklahoma Consortium on Research Development.

Objective B.—To provide institutional administrators and faculty members with the appropriate information and experience so that: the collection of basic institutional data on a continuing basis and the careful study of institutional problems will be regarded as essential to planning and policy determination; an effective institutional research operation will be established and maintained as a resource and service to administrators and faculty in collecting data, making studies, and otherwise assisting the decisionmaking process by furnishing relevant information; the research interests and activities of the faculty will be encouraged, supported, and regarded as an essential aspect of the regular work load.

Activities.—Two representatives from each Consortium institution attended a Consortium institutional research workshop, developed guidelines for the type of office that made sense for their institution, and

began the development of a data fact book for their institution.

A computer seminar was held for representatives from each Consortium institution to enable them to exchange ideas and computer applications that would be beneficial in conducting institutional research.

An organizational seminar was conducted to encourage institutions to establish institutional research offices and to enable those institutions which had not done so to pick up ideas from those who had established institutional research offices.

Information concerning institutional research office organization and responsibility was presented in the Consortium newsletter and faculty involved in institutional research were encouraged to attend and participate in state and national research meetings, seminars, and conferences.

The Oklahoma Consortium on Research Development sponsored a series of seminars for junior college member institutions to help them start from ground zero in the development of an approach to institutional research, leading to the improvement of the instructional program.

Generated Activities.—Several institutions have established institutional research offices. Table IV provides information concerning these offices and related activity.

TABLE IV

COMPARISON OF INSTITUTIONAL RESEARCH OFFICE INFORMATION
AND RELATED ACTIVITIES - 1966-67; 1969-70

Activity	1966-67	1969-70
Institutional Research Offices Established	8	19
Institutional Research Office Director (on the job) ..	3	18
Number of Secretaries Employed (FTE)	13	24
Space Set Aside for Institutional Research Operation	3	11
Research Equipment Available:		
Calculator and/or Adding Machine	22	25
Unit Record Equipment	11	11
Computer	11	18

Institutional researchers within the state have organized and have held a series of seminars during the last two years. At one of their first seminars they discussed the problem of top administrators' lack of understanding concerning the need for institutional research and the need for computer services.

The University of Oklahoma and IBM jointly sponsored two workshops for the presidents of Consortium institutions for the purpose of acquainting them with the ways a computer can assist in the conducting of institutional research.

The number of faculty members from Consortium institutions belonging to the American Educational Research Association and/or the Association for Institutional Research increased by 30 percent from 1968-69 to 1969-70. The number of papers presented at AERA or AIR by faculty members from Consortium institutions other than the University of Oklahoma and Oklahoma State University increased from zero in 1968-69 to four in 1969-70.

Several institutional research directors are working together to organize a state chapter of AIR. Considerable interest has been generated.

Several institutions have developed policies which enable a faculty member to be involved with essential kinds of research that lead to the improvement of instruction as part of their regular work assignment.

Objective C.—To provide appropriate faculty and administrators at member institutions with information and experience so that: the need and the usefulness of interinstitutional research on certain types of problems will be accepted and encouraged; a framework or pattern for the development of an interinstitutional project exists and that there is readiness and ability to develop projects as needed; they are aware of and can utilize the services of the Consortium and of the individual institutional members of the Consortium in defining and developing an interinstitutional project.

Activities.—Regularly scheduled meetings of the Coordinating Council and the Steering Committee were held during the last three years. The membership of these groups included presidents, academic deans, and faculty of member institutions.

Thirty-seven development seminar grants were made to Consortium institutions to enable them to identify problems and to get faculty together to work cooperatively to solve the problems.

An inventory of research personnel was developed, providing names of faculty researchers and areas of interest by institution.

Generated Activities.—In September of 1968, the Oklahoma State Regents for Higher Education agreed to act as the contracting and coordinating agency for projects developed by and involving several member institutions if requested and if endorsed by the Consortium Coordinating Council. Several project proposals were developed and submitted for federal funding but none were approved. The Consortium staff was involved in the development of interinstitutional proposals for the training of counselors, researchers, and for the identification of a mechanism for establishing state priorities for science, technology, and research activity.

The Consortium newsletter has pointed out the need for institutions to keep informed as to efforts of WICHE, in relation to the compatibility of institutional data that would permit interinstitutional studies. State efforts to encourage compatibility have brought about a more compatible course numbering system and a more uniform calendar.

Research and computer personnel from member institutions have become well acquainted and no longer hesitate to ask one another for advice or assistance.

The Research Laboratory Experience project has provided institutional leaders with another avenue for interinstitutional research. Several recipients of these awards have developed ongoing cooperative research arrangements with the person who supervised them at the university.

St. Gregory's College conducted a development seminar which led to the development of a Title III, HEA proposal which was funded for \$69,000. The purpose of the seminar and the proposal was to stimulate cooperative junior college research and leadership on a regional basis.

St. Gregory's College, Northern Oklahoma College, and Oklahoma Military Academy obtained additional Title III funds for joint development activities and have formed their own small consortium to assure the continuation of cooperative activity.

Oklahoma Military Academy obtained Oklahoma Consortium on Research Development funds for a math development seminar which resulted in a \$39,000 National Science Foundation grant to conduct a series of math seminars during 1969-70. Plans have been made for the local support of such seminars to be conducted throughout the coming year.

Four Oklahoma junior colleges have formed a consortium for the purpose of curriculum revision and program development and evaluation. Oklahoma Military Academy will coordinate these efforts which are supported by a \$194,000 Title III, HEA grant.

Computer directors, as well as institutional research directors which were mentioned earlier, have held a series of meetings on their own during the past year.

The six five-year state colleges have taken initial steps to form a "consortium" to deal with mutual problems and to enable them to take advantage of joint opportunities.

Objective D.—To explore, define, and develop the needs, the advantages, and means of continuing cooperation in research among the institutions of the state: in curricular and instructional programs, either by research or by the development of new instructional media and materials; in the definition and collection of data useful in analyzing and understanding problems of individual institutions and of higher education in Oklahoma; in respect to possible cooperation or collaboration between faculty members in several institutions in study of problems in their particular disciplines.

Activities.—After the Oklahoma Consortium on Research Development project supervisor had visited the TAGER television operation in Dallas, Texas in the spring of 1968, a media seminar was planned and conducted by the Consortium in December of 1968. Several key people from education and industry discussed the potential benefits of a television communication system for higher education and industry.

A second media seminar involving representatives from all member institutions was held to stimulate interest in the cooperative use of various media, especially television.

A task force was organized in 1969-70 to explore, define, and develop the needs, the advantages, and the means of continuing cooperation among the institutions of the state via television.

A television position paper was developed by a task force of knowledgeable faculty from Oklahoma and two nationally known consultants from out of state. The position paper was presented to the Chancellor for consideration by the Oklahoma State Regents for Higher Education.

A series of seminars were conducted for junior college representatives to help them develop an ongoing cooperative institutional research operation.

A seminar was also conducted for senior college representatives to strengthen their ongoing cooperative institutional research organization.

Generated Activities.—The Oklahoma State Regents for Higher Education received copies of the television task force position paper and, after a staff report, discussed its recommendations at their meeting in October, 1969. The State Regents then instructed their staff to give careful consideration to the recommendations of the television task force as part of a statewide study of the role and scope of higher education in Oklahoma.

A major recommendation of the State Regents' Role and Scope Study was that "the State Regents should, in cooperation with institutions in Oklahoma higher education, develop a system of televised instruction designed to meet the needs of business and industry in rapidly growing industrial communities. Opportunity for study and for earning resident credit should be provided through a coordinated system of graduate education centers linked to major industrial communities."

A preliminary plan for Oklahoma Higher Education Televised Instruction for Oklahoma was then developed by the State Regents' staff and presented to members of the Legislature and to the Governor. As a result, Senate Bill No. 452 of the Second Session of the 32nd Oklahoma Legislature, signed into law by the Governor on February 3, 1970, authorized and directed the Oklahoma State Regents for Higher Education to establish and maintain a system of televised instruction as an integral part of The Oklahoma System System of Higher Education. A method of funding the establishment of the system was also authorized by the Legislature.

At the time this report was written, approximately \$1.5 million was available for the capital requirements of the system (\$1 million from the state and \$500,000 from industry) and \$200,000 available from the state for operational expenses. This system will be operative by the beginning of the second semester of the 1970-71 academic year.

Faculty members from institutions involved with televised instruction are making plans to coordinate their efforts as to program development and the development of materials.

Consideration is being given to the expansion of the backbone televised instruction network to link all institutions of higher education. Consideration is also being given to the possibility of using the microwave network to transmit computer data, library information, and for research seminars.

A systems analyst was added to the State Regents' staff in January of 1970. A plan is being developed for a comprehensive data system that will involve all Oklahoma institutions of higher education.

Both junior colleges and senior colleges are working together formally and informally and watching the work of WICHE and the State Regents in an effort to assure compatibility.

Objective E.--To explore, define, and develop the needs, the advantages, and the means of expanding cooperation in research between educational and non-educational agencies: in instructional programs, either by research or by the development of new instructional media and materials; in the collection of data useful in analyzing and understanding problems of higher education; in respect to possible cooperation or collaboration between personnel from several agencies in study of problems in Oklahoma and the region.

Activities.--Representatives from industry and business attended a Consortium sponsored media seminar (mentioned earlier).

The Consortium project supervisor worked with representatives from institutions of higher education, the Governor's staff, and the Frontiers of Science in the development of a National Science Foundation proposal to identify and/or develop the most appropriate structure for establishing state priorities for science, technology, and research activity in Oklahoma.

The Coordinating Council and the Steering Committee discussed the need for cooperation and collaboration between personnel from educational and non-educational agencies.

Generated Activities.--The State Regents' staff conducted a survey to determine the educational needs of the major industries of Oklahoma. These needs have been matched with existing courses, programs, and specially designed seminars to be televised by the graduation centers. Committees from both industry and education have been established to advise with those responsible for the system.

The Frontiers of Science conducted a planning seminar in March concerning the applications of science and technology in Oklahoma.

Oklahoma State University sponsored a "Research Day" in March at which William D. McElroy, Director, National Science Foundation, announced that the Frontiers of Science proposal had been funded for \$15,000.

Several Consortium institutions have taken the initiative in establishing a working arrangement with industry in their area.

DISCUSSION

The results of this study are analyzed and interpreted in several different ways: by an outside evaluation consultant; by the Consortium staff; and by those people who were involved from the member institutions.

The discussion which follows is limited in at least three ways: the activities of the Consortium have just been completed and many institutional and individual reports have not yet been evaluated; the post-test opinionnaire data has not yet been thoroughly analyzed and comparisons between pre and post data are very general; and most importantly, the worth of the Consortium cannot be determined until evidence of continued and expanding research activity leading toward the improvement of instruction becomes available.

Supplementary pamphlets containing detailed evaluation information have been developed and are available.

Comments of the Evaluator

In some sense any project which can bring together 33 institutions in a far-reaching cooperative enterprise enduring over three years with a promise of indefinite extension based on the interests and demands of the institutions themselves must be declared a success. Yet, this has not been an enterprise in which the staff and institutions were satisfied to develop and carry on a wide range of activities. There was continually present a concern as to the impact of these activities on the institutions, the faculty, and the students therein. There has been in this enterprise--partially due to the director but also, in great part, to the institutional representatives on the Council and the Steering Committee--a willingness, and even a demand, that critical questions be asked about the impact of the project and that evidence be collected to demonstrate that effectiveness. There has also been present at all times a willingness to listen to analytical or critical comments and questions and to undertake modifications of the program on the basis of these comments.

The organization of the Consortium, involving a Coordinating Council and a seven-member Steering Committee, assisted by directors and housed and assisted by the Oklahoma State Regents for Higher Education, appears to have worked quite effectively. Whereas one might have anticipated that such an enterprise, being related to the Board of Regents, would be regarded with some concern by the institutions

as a means of indirect control or dictation, in fact this seems not to have happened. If such concerns ever existed, they were set at rest very early by Chancellor Dunlap's explicit statement of interest and desire to be of assistance while clearly renouncing any intent of directing or determining the outcomes of the venture. In fact, the Board location of the headquarters has been advantageous to the operation because of the interrelationship of many aspects of the Consortium enterprise with interests of the Board. The fact that a number of activities--for example, the interest in educational television--became, in effect, joint enterprises of the Board and the Consortium and ultimately brought to fruition by the Board pursuit of support, reinforces the observation that the relationship has been mutually advantageous. The range of activities carried on by the Consortium--workshops, pilot grants, development seminars, and conferences--made it impossible for any one person to direct all activities. Yet, the democratic nature of the enterprise seemingly permitted and encouraged interested individuals to propose seminars and workshops and expend great amounts of time and energy in developing these and carrying them to a successful conclusion.

The Evaluation Plan

Very early in the project, the evaluator was called to meet with the staff and with the Council. The major point made at that time was that it would be difficult to evaluate the impact of the project because the objectives had not themselves been spelled out very clearly. Some time was spent on the discussion of objectives, and very shortly there came from the project office a statement of objectives which spelled out in much greater detail the anticipated accomplishments of the Consortium. In general, these objectives were consonant with the title of the Consortium in that they focused on encouraging the utilization of research and the development of research activities as a basic part of the operation of every institution in the project. This broad concern, in turn, implies objectives in the development of research skills and techniques, of obtaining research grants, and in capabilities of carrying on research activity, interpreting it, and moving it into the day-to-day operation of an institution. In this broad sense, research is seen as an essential element in the life of an institution; something which should involve students as participants in research projects and independent study enterprises; something which should encourage faculty to continue a critical examination of their instructional practices and their curricular organization; and something which would encourage administrators, faculty, and students, working together, to make studies leading to greater insight into the operations of the institution and the improvement of the

utilization of resources in it. At an early stage, it seemed to the evaluator there were prospects of having research too narrowly interpreted to research in the specialized disciplines, which could focus faculty attention on a limited point of view or research that would ultimately cause them to become primarily interested in graduate education and narrowly conceived research unrelated to undergraduate education. The significance of this issue was most clearly found in connection with the pilot grant program which, at the first round, seemed to emphasize the disciplinary rather than instructional research. Later grants indicated that faculty members readily responded to suggestions that more of their research activity should be such as to have direct implications for undergraduate instruction and even involving undergraduate students in the projects. Incidentally, perusal of some of the pilot grant reports would suggest that the very small sums made available for research in this program had impact far beyond the dollars involved. Clearly, the small sums of money did not provide for any reduction in teaching load, and yet the reports would indicate that many, many hours of time were spent in studies, with significant implications, which would not have been done unless the grant program had focused attention on such activity and enthusiasm had been generated by the recognition accorded by receiving the grant.

It has been noted that the range of activity involved in this Consortium was very great. The evaluator noted that almost every enterprise that was carried on involved some kind of immediate evaluation by questionnaire, check list, or otherwise. Reports written on the various activities generally give some attention to the matter of evaluating the effectiveness. But even more significant has been the development of a series of questionnaires and inventories which have attempted to assess the developing attitude toward research on the various campuses; the extent to which research activity has been recognized as an important phase of an institutional program by providing additional funds from the institution, by setting up institutional research offices or research development offices, and by seeking to find out directly from students and faculty the extent to which they find the research activity beneficial in their own experience. Many of these studies were completed on a basis which permits comparison over a span of time. As the report indicates, one can definitely ascertain how many offices of institutional research came into being during the period of the Consortium, and one can find out the extent to which institutions themselves have taken on the support of research activities. Clearly, then, this is an enterprise in which objectives were stated in concrete terms and where there has been a continual concern that evidence be collected as to the effectiveness of the various aspects of the program. In sum total, as indicated in the report, the development of various offices connected with research, the

budgeting within institutions of dollars to support research, increasing sophistication in the use of the computer for educational and research purposes and exploration of instructional innovations clearly document that important things happened to the cooperating institutions in this Consortium. The fact that the institutions themselves recognized this and have expressed a desire to continue the Consortium activity, even though extensive outside funding might not be available, is further evidence of the worth of the program.

The purist in evaluation might note that this has not been a controlled experimental enterprise and raise some question, then, as to whether it has been demonstrated that the Consortium itself brought about these impacts or whether, indeed, the development of interest in such activities was not so much a part of the general trends in the country meant that much of this would have happened in any case. This is not an unreasonable observation, but it is essentially an irrelevant one. Really, without the Consortium, individuals would not have found the time to get together in the seminars, workshops, and conferences focused on particular aspects of research and instruction. Without the pilot grants, the faculty members would not have been given the incentive to think up and pursue research projects, and without the discussion of the need for improved data and management procedures it is unlikely that many of these colleges would even have become aware of developments elsewhere and even less likely that they would have moved to implement these on their own campuses.

Beyond the success of any enterprise, of course, are people--the Council, the Steering Committee, the Chancellor, and other members of the Board staff, all at one time or another gave a good many hours to this study--but this evaluator's report would not be complete without taking note of the fact that the enthusiasm, patience, the humaneness, and the untiring efforts of Larry Hayes were an essential element of the enterprise.

Comments of the Staff

After analyzing the data presently available from various sources, the Consortium staff feels that the Consortium has to a large degree accomplished its purpose which was to provide the machinery necessary to encourage Oklahoma institutions of higher education to band together voluntarily for the purpose of developing their intrainstitutional and interinstitutional research capabilities and to enable them to improve the quality of instruction

in Oklahoma through the involvement of students and faculty in research and program development activities.

The staff regards the following elements as keys to the success of the Consortium.

The Oklahoma State Regents for Higher Education, the ongoing state agency for state level coordination and leadership, was the contracting and coordinating agency for the Consortium.

A Coordinating Council and Steering Committee, representative of the Consortium membership, developed policies, objectives, and procedures for the Consortium.

Consortium membership was open to all interested institutions of higher education in Oklahoma.

The state's two universities were actively involved with the Consortium in terms of staff, facilities, and other support.

The Consortium program of activities was flexible enough to be responsive to the needs of each institution.

Lines of communication between the Consortium staff and the Coordinating Council member at each institution were established early and maintained throughout the project.

A specific statement of objectives was developed by those people to be involved in the project.

Institutions accepted specific responsibility for Consortium activities and started early to develop plans for the establishment of an ongoing research operation for their own institution.

The faculty and administration of the developing institutions of higher education in Oklahoma were open to suggestions, ready to try out their own ideas, and had the ability to learn how to conduct research.

The faculty and administration of the developing institutions of higher education in Oklahoma were receptive to the idea of inter-institutional cooperation.

An evaluation procedure, which included outside consultants, was built into the structure of the Consortium and provided the feedback needed to constantly revise and improve the program.

The staff leadership for the Consortium was continuous throughout the project, the activities of the Consortium were well documented, and the rules and regulations of the U. S. Office of Education were closely followed.

Comments of Others Involved

Without exception, the Coordinating Council members have indicated that the Consortium has been of benefit to their institutions.

The Council members were understandably divided as to the degree of benefit. Twelve institutions have indicated that while they would like to have continuing support and coordination from the State Regents, the Consortium has enabled them to upgrade their faculty and organize to the extent that they could now stand on their own. Further stimulation, support and coordination is essential, according to eighteen other institutions. They feel that while a good beginning has been made, they may lose their momentum without further assistance. Three institutions indicated that while their research operations have been somewhat enhanced because of recent activities, they were pretty well self-sufficient before the advent of the Consortium.

The two university Council members stressed the benefit of inter-institutional cooperation through the activities of the Consortium and the value of meeting around a table at the Council meetings to identify mutual problems and opportunities.

Results from student interviews indicated that students were extremely complimentary regarding the research activities of the faculty. The students were not always aware of the specific sources of funding for the research or the underlying reasons for the research, but they were enthusiastically in favor of faculty research. The general consensus was that faculty involvement in research enhances the faculty member's teaching ability.

Faculty members who became involved in research activities were especially appreciative of the Consortium. They indicated that while research funds and other financial support was helpful, the greatest benefit was the awareness on their part that their administration was interested in research and program development.

Junior college administrators, especially the deans, felt that their institutions profited most from seminars and workshops which stimulated them to work cooperatively one with another.

Senior college administrators tended to place the most importance on the establishment of research offices and the involvement of faculty in research activity leading toward the improvement of instruction.

CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS

The information provided in this report leads to the conclusion that institutions of higher learning of various types can, with a minimum of financial assistance and with coordination from the state, develop their research capabilities to the extent that they can become involved in meaningful intrainstitutional and interinstitutional research activities leading toward the improvement of instruction. Several institutions were able to develop their research capabilities in a relatively short time (three years); other institutions, often quite similar, need more time to accomplish any meaningful change. The variable that seemed to make the difference in Oklahoma Consortium on Research Development institutions was the Coordinating Council member. Those members who became excited early were able to stimulate a good deal of interest and activity at their institution. Those who were not associated with the Consortium from the beginning, or failed to become active early, were not able to make any significant progress at their institution.

It is also concluded that if a Consortium hopes to make any substantial or lasting change: it is best to work through established agencies; those individuals to be affected by a project should also be involved in determining what should be done; activities planned for several institutions must be flexible; continuous leadership and frequent communications are essential; and an evaluation element, which includes consultation from the outside, is imperative.

Recommendations

The federal government has put millions of dollars into program development and research training programs. At the present time, the U. S. Office of Education is keenly interested in exploring ways to

do a more effective and efficient job of training research support personnel and to determine how best to get professors and teachers to utilize research findings. The Oklahoma Consortium on Research Development has done more along this line with less money than any other project in the country. Federal projects funded at levels far above that of the Oklahoma Consortium on Research Development have not produced equivalent results, nor do they come even close to offering the same potential for continuous program development, evaluation and practical training for research support personnel.

It is, therefore, recommended that the federal government make substantial grants directly to a few state higher education coordinating agencies, including Oklahoma, to determine if this pattern of support might not be more efficient and effective than present support programs, and at the same time overcome many of the problems of existing funding procedures.

SUMMARY

The Oklahoma Consortium on Research Development, composed of 33 of the 35 institutions of higher education in Oklahoma, was established in the summer of 1967 as an activity of the Oklahoma State Regents for Higher Education for the purposes of developing research capabilities in developing member institutions and to stimulate interinstitutional cooperation. A grant of approximately \$214,000 was awarded to the Oklahoma Consortium on Research Development by the U. S. Commissioner of Education over a three-year period to accomplish the above purposes.

Organization

The State Regents assigned a person half-time to the Consortium as the project supervisor. The University of Oklahoma and Oklahoma State University each assigned a person part-time to the Consortium as co-directors during the first two years, and then as coordinating consultants for the third year of operation.

Membership was open all institutions of higher education in Oklahoma, with a representative from each of the thirty-three member institutions serving as a delegate to the Coordinating Council. The

Council, operating within the broad policy of the Oklahoma State Regents for Higher Education, was the policy-formulating body for the Consortium. A seven-member Steering Committee was elected annually and in turn elected from its membership a chairman to preside over meetings of the Coordinating Council and the Steering Committee.

Activities

The basic activities of the Consortium were as follows:

Pilot Research Grants - to encourage personnel from member institutions to develop proposals and undertake research projects and thus gain experience in research and related activities;

Development Seminars - to encourage personnel from small and large institutions of higher education to plan cooperatively for the solution of mutual problems and to encourage cooperation with other agencies;

Workshops, Organizational Seminars, and Task Forces - to provide encouragement and assistance to member institution personnel in their efforts to upgrade research personnel, to establish project and institutional research offices, to identify problem areas and seek solutions, to draft proposals and obtain outside funds, and to locate appropriate research materials and consultation;

Research Laboratory Experiences - to provide research personnel from developing institutions with an opportunity to gain experience in a university research laboratory and to get acquainted with other researchers with similar research interests; and

Information and Consultation Service - to assist member institutions through the dissemination of information, by providing consultation, and by making it possible for institutions to submit proposals through the State Regents' office, if they involved several institutions and called for coordination.

Evaluation

The Consortium staff, with consultation from Dr. Paul L. Dressel of Michigan State University, designed and conducted an evaluation of the Consortium to determine the degree to which the stated objectives of the Oklahoma Consortium on Research Development had been met and

to answer certain other related questions.

The results of the evaluation suggest that to a major degree the purposes of the Consortium were achieved, that the Consortium did provide the machinery necessary to encourage Oklahoma institutions of higher education to band together voluntarily for the purpose of developing their intrainstitutional and interinstitutional research capabilities and to enable them to improve the quality of instruction in Oklahoma through the involvement of students and faculty in research and program development activities.